UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,831	09/19/2003	Gregory J. May	200300696-1	6035

7590 03/09/2006

HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER	
MOON, SEOKYUN	
ART UNIT	**PAPER NUMBER**
2675	

DATE MAILED: 03/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/665,831	MAY, GREGORY J.	
	Examiner	Art Unit	
	Seokyun Moon	2675	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 September 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 September, 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *09/19/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

G

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. **Claim 7** is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claim limitation disclosed in claim 7, "*wherein each pixel comprises a multi-color pixel for displaying multiple colors*" is not consistent with the aspect of the invention disclosed in the specification [*Pg. 6 Line 9*].

For further examination purpose, the claim limitations will be interpreted as "*wherein each pixel comprises a multi-color physical elements or sub-pixel for displaying multiple colors*", to be consistent with the requirement of the invention.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. **Claims 1**, **3-8**, **10-16**, **19-23**, **25-32**, and **34-37** are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakanishi (U.S. Pat. No. 6,819,064 B2, herein after referred to as "Nakanishi") in view of Butler-Smith et al. (U.S. Pub. No. 2005/0041163 A1, herein after referred to as "Butler-Smith").

As to **claim 1**, Nakanishi teaches an optically addressable display ("*display system*") [*Fig. 1* and *Fig. 6*] comprising:

emissions having various color channels [*Col. 1 Lines 30-35*];

a data encoder ("*digital micro-mirror device*", herein after referred to as "*DMD*") to apply data for each of the color channels [*Col. 1 Lines 33-35* and *Lines 44-49*];

a plurality of pixels for producing a color display [*Col. 1 Lines 47-49*].

Nakanishi inherently teaches / discloses the plurality of pixels to include a plurality of receptors activating the pixels since it is required for Nakanishi to activate the pixels to display images on the screen of the display according to the lights of different color elements transmitted by "*DMD*" [*Col. 1 Lines 33-35* and *Lines 47-49*].

Nakanishi does not expressly teach to have plural polarizations defining a corresponding number of color channels.

However, Butler-Smith [*Fig. 7*] teaches a polarized color filter ("*color/polarizing wheel*") used in a display [*Par (0008) Lines 7-12*].

It would have been obvious to one of ordinary skill in the art at the time of the invention to replace Nakanishi's "*color wheel 41*" with Butler-Smith's "*color/polarizing wheel*" to provide distinct characteristic differences on the lights of different colors by

providing a different polarization for each of lights having different colors and defining sub-pixels of the pixels to respond to each of colors and each of polarizations to display an image on the screen where the pixels/sub-pixels are implemented, and thus to produce a good quality stereoscopic display while taking advantage of existing capability [*Par. (0006)*].

As to **claim 3**, Nakanishi as modified by Butler-Smith teaches the display ("*display system*") comprising:

a source (*Nakanishi*: "*light source 1*") [*Fig. 1* and *Fig. 6*] producing visible spectrum emission (*Nakanishi*: "*white light*") [*Nakanishi*: *Col. 1 Lines 30-33*]; and

a polarization filter (*Butler Smith*: "*color/polarizing wheel*" shown in [*Fig. 7*]) to sequentially polarize the visible emissions (*Nakanishi*: "*white light*") to produce said emissions of plural polarizations as sequentially polarized emissions; wherein said data encoder (*Nakanishi*: "*DMD*") sequentially applies data for the multiple color channels on a channel-by-channel basis to the sequentially polarized emissions [*Nakanishi*: *Col. 1 Lines 30-33* and *Col. 1 Lines 61-67*].

As to **claim 4**, Butler-Smith [*Fig. 7*] teaches the polarization filter ("*color/polarizing wheel*") being a multi-segment filter, each segment corresponding to a different one of multiple polarization phases.

As to **claim 5**, Nakanishi as modified by Butler-Smith [*Butler-Smith*: *Fig. 7*] teaches the multi-segment filter to comprise a rotating filter disposed in the path of the emissions to sequentially polarize the emissions through the multiple polarization phases [*Nakanishi*: *Col. 1 Lines 58-67*].

As to **claim 6**, Butler-Smith [*Fig. 7*] teaches the polarization filter ("*color/polarizing wheel*") being a rotating linear (each portion corresponding to one of color is linearly polarized) filter that sequentially polarizes the emissions through multiple polarization phase peaks ("*R*" for 0° – 60° and 180° – 240°, "G" for 60° - 120° and 240° - 300°, "B" for 120° - 180° and 300° - 360°).

As to **claim 7**, the claim limitation regarding the receptors implemented in pixels has already been discussed with respect to the rejection of claim 1.

Nakanishi as modified by Butler-Smith teaches the display, wherein each pixel comprises a multi-color physical element ("*receptors*") for displaying multiple colors (*Butler Smith*: "*R*", "*G*", and "*B*"), and wherein different ones of the multiple colors (*Butler Smith*: each of "*R*", "*G*", and "*B*") are encoded by bands near different ones of the multiple polarization phase peaks (*Butler Smith*: [*Fig. 7*] "*R*" for 0° – 60° and 180° – 240°, "G" for 60° - 120° and 240° - 300°, "B" for 120° - 180° and 300° - 360°).

As to **claim 8**, Butler-Smith [*Fig. 7*] teaches the polarization filter ("*color/polarizing wheel*") to comprise a circular polarization filter.

As to **claim 10**, the claim limitation regarding the receptors implemented in pixels has already been discussed with respect to the rejection of claim 1.

Nakanishi teaches the data encoder ("*DMD*") comprising an array of digital light processing mirrors (a plurality of "*micro-mirror*'s), each of the digital light processing mirrors selectively reflecting the emissions away from or toward a corresponding one or more of the receptors based upon the data [*Col. 1 Lines 33-37* and *Lines 44-57*].

As to **claim 11**, Nakanishi as modified by Butler-Smith teaches / discloses inherently the sequentially polarized emissions to comprise a single beam of emissions having a diameter that completely encompasses the array of digital light processing mirrors since Nakanishi teaches the "*micro-mirrors*" of "*DMD*" to respond to each of the picture elements, pixels, implemented on the screen [*Col. 1 Lines 47-49*], and thus requires the emissions to cover or encompass the total portion of the array of "*micro-mirrors*" of "*DMD*" to display a complete or a full image on the screen.

As to **claim 12**, the claim limitation regarding the receptors implemented in pixels has already been discussed with respect to the rejection of claim 1.

Nakanishi teaches the display comprising a separate mirror for each of the pixels [*Col. 1 Lines 47-49*].

As to **claim 13**, the claim limitation regarding the receptors implemented in pixels has already been discussed with respect to the rejection of claim 1.

Nakanishi as modified by Butler-Smith teaches the display (*Nakanishi*: "*display system*") wherein

each pixel is one of multiple colors (*Nakanishi*: "*R*", "*G*", or "*B*");

the polarization filter (*Butler-Smith*: "*color/polarizing wheel*") sequentially polarizes the emissions into one of multiple polarization states, a separate polarization state corresponding to each the multiple colors [*Butler-Smith*: *Fig. 7*] [*Nakanishi*: *Col. 1 Lines 30-33*]; and

each pixel is responsive to one of the multiple separate polarization states (since each pixel is responsive to one of the multiple colors while each of colors corresponds to one of multiple polarization states).

As to **claim 14**, Nakanishi teaches each of the digital light processing mirrors ("*micro-mirrors*" of "*DMD*") be positioned to reflect light away from its corresponding receptor in response to a data indicating that its corresponding pixel should be off [*Col. 1 Lines 33-37*].

As to **claim 15**, all of the claim limitations have already been discussed with respect to the rejection of claim 6.

As to **claim 16**, all of the claim limitations have already been discussed with respect to the rejection of claim 7.

As to **claim 19**, the claim limitation regarding the receptors implemented in pixels has already been discussed with respect to the rejection of claim 1.

Nakanishi as modified by Butler-Smith teaches the display (*Nakanishi*: "*display system*") comprising a projecting lens (*Nakanishi*: "*projection lens 3*") after the data encoder (*Nakanishi*: "*DMD*") to project the sequentially polarized emissions toward the plurality of pixels.

As to **claim 20**, the claim limitation regarding the receptors implemented in pixels has already been discussed with respect to the rejection of claim 1.

Nakanishi as modified by Butler-Smith discussed with respect to the rejection of claim 1 teaches each of the plurality of pixels to respond to a different polarization state

of the emissions of plural polarizations and to produce one of multiple colors [*Nakanishi*: "*R*", "*G*", and "*B*") as a display.

As to **claim 21**, Nakanishi does not disclose expressly the plurality of pixels to comprise a plurality of light emitting diodes.

However, examiner takes official notice that using light emitting diodes for pixels implemented in a display screen is a well known in display technology.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use light emitting diodes for the pixel elements implemented in Nakanishi's display to provide bright light emissions for the display.

As to **claim 22**, Nakanishi teaches / discloses inherently each of the pixels to include light emitting diodes of at least three different colors since it is required for Nakanishi to include elements / components capable of emitting lights of colors corresponding to the color signals ("*R*", "*G*", and "*B*") embedded in an image signal shown on [*Fig. 9*] to display images on the screen of the display.

Nakanishi does not disclose the elements being light emitting diodes.

However, examiner takes official notice that using light emitting diodes for pixels implemented in a display screen is a well known in display technology.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use light emitting diodes for the pixel elements implemented in Nakanishi's display to provide bright light emissions for the display.

As to **claim 23**, Nakanishi as modified by Butler-Smith teaches the data encoder to comprise an LCD shutter device ("*spatial light modulator*" in conjunction with the "*color wheel*") [*Butler-Smith*: *Par. (0008) Lines 7-9*].

As to **claim 25**, Nakanishi [*Col. 1 Lines 29-43*] teaches a method of encoding color data to activate an optically addressable display ("*display system*") including a plurality of pixels, the method comprising the steps of:

for each pixel, applying data to each of the emissions of different colors by selectively passing the emissions of different colors to the pixels;

at each pixel, producing a different display for each of the emissions of different colors when received [*Col. 1 Lines 30-40*].

Nakanishi does not teach producing emissions of different polarizations, applying emissions of different polarizations to pixels, and defining the pixels to produce a different display for different polarized emissions.

Butler-Smith [*Fig. 7*] teaches a polarized color filter ("*color/polarizing wheel*") used in a display [*Par (0008) Lines 7-12*].

It would have been obvious to one of ordinary skill in the art at the time of the invention to replace Nakanishi's "*color wheel 41*" with Butler-Smith's "*color/polarizing wheel*" to provide distinct characteristic differences on the lights of different colors by providing a different polarization for each of lights having different colors and defining sub-pixels of the pixels to respond to each of colors and each of polarizations to display an image on the screen where the pixels/sub-pixels are implemented, and thus to

produce a good quality stereoscopic display while taking advantage of existing capability [*Par. (0006)*].

As to **claim 26**, all of the claim limitations have already been discussed with respect to the rejection of claim 3.

As to **claim 27**, Nakanishi does not expressly disclose the emission being a laser emission.

However, since applicant has failed to disclose that using a laser for emission source provides an advantage, is used for particular purpose, or solves a stated problem, it is an obvious matter of design choice to use a laser as a light emission source in Nakanishi.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use any other light emitting source, including a laser, since other light emitting sources would perform equally well at emitting a light.

As to **claim 28**, all of the claim limitations have already been discussed with respect to the rejection of claim 3.

As to **claim 29**, all of the claim limitations have already been discussed with respect to the rejection of claim 4.

As to **claim 30**, all of the claim limitations have already been discussed with respect to the rejection of claim 4.

As to **claim 31**, Nakanishi as modified by Butler-Smith discloses the step of applying data comprising selectively shuttering the emissions of different polarization (since Butler-Smith's "*color/polarizing wheel*" discloses a "*shutter*" for each primary-

color- sub-frames which are "*R*", "*G*", and "*B*" where each of the colors are assigned by each of plural polarizations).

As to **claim 32**, all of the claim limitations have already been discussed with respect to the rejection of claim 10.

As to **claim 34**, Nakanishi as modified by Butler-Smith teaches applying data to the emissions of different colors and polarizations sequentially (since each of colors corresponds to one of multiple polarization states in modified combined device of Nakanishi and Butler-Smith) [*Nakanishi*: *Col. 1 Lines 33-37*].

As to **claim 35**, most of the claim limitations have already been discussed with respect to the rejection of claims 1 and 20, except for applying data, on a pixel-by-pixel and channel-by-channel basis to the emissions by permitting emissions to reach a pixel indicated to be on by the data.

Nakanishi teaches applying data, on a pixel-by-pixel and channel-by-channel basis (applying "*R*", "*G*", and "*B*" in sequence) to the emissions by permitting emissions to reach a pixel indicated to be on by the data [*Col. 1 Lines 33-37* and *Lines 47-57*].

As to **claim 36**, most of the claim limitations have already been discussed with respect to the rejection of claim 20 except for means for directing emissions of plural polarization states toward an array of pixels and means for selectively passing emissions of each of the plural polarization states according to applied data.

Nakanishi as modified by Butler-Smith teaches means (*Nakanishi*: "*spatial light modulator 2*") for directing emissions of plural colors / plural polarization states (since each of colors corresponds to one of multiple polarization states in modified combined

device of Nakanishi and Butler-Smith) toward an array of pixels [*Nakanishi*: *Col. 1 Lines 33-37*] and means (*Nakanishi*: "*micro-mirrors*" of "*DMD*") for selectively passing emissions of each of the plural colors / polarization states according to applied data [*Nakanishi*: *Col. 1 Lines 47-55*].

As to **claim 37**, Nakanishi as modified by Butler-Smith teaches an optically addressable display comprising:

means (*Butler-Smith*: [*Fig. 7*] "*color/polarizing wheel*") for creating emissions of a plurality of polarizations, each of the plurality of polarizations corresponding to a separate color data channel; and

means (*Butler-Smith*: [*Fig. 7*] "*color/polarizing wheel*") for encoding data onto each of the separate color data channels.

5. **Claims 2**, **24**, and **33** are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakanishi and Butler-Smith as applied to claim 1 above, and further in view of Morgan et al. (U.S. Pat. No. 6,453,067 B1, herein after referred to as "Morgan") and Marshall et al. (U.S. Pat. No. 5,706,061, herein after referred to as "Marshall").

Nakanishi as modified by Butler-Smith does not teach the data encoder receiving the emissions of plural polarizations simultaneously and applying data simultaneously for each of the multiple color channels to the emissions of different polarization.

However, Morgan [*Col. 3 Lines 63-67* and *Col. 4 Lines 1-6*] discloses the data encoder (a portion of the "*three separate SLMs*") receiving the emissions of plural modulated signals simultaneously and applying data simultaneously for each of the multiple color channels to the emissions of different polarization (since each of colors

corresponds to one of multiple polarization states in modified combined device of Nakanishi and Butler-Smith).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use three "*spatial light modulators*" instead of one for Nakanishi's display, as taught by Morgan, to apply all data signals simultaneously instead of sequentially and thus to provide a bright display environment for Nakanishi's display screen [*Morgan*: *Col. 4 Line 5*].

The combined device of Nakanishi and Butler-Smith as modified by Morgan does not expressly disclose the modulation process to comprise a polarization.

However, Marshall teaches the data encoders ("*SLMs*") modulating the incident light entering the spatial light modulators in its polarization in the environment of driving display apparatus using spatial light modulators [*Col. 1 Lines 31-41*].

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to specify the modulation process implemented in the modified combined device of Nakanishi, Butler-Smith, and Morgan being a polarization since the modulation process through polarization requires less number of components and can be achieved with simple optical components such as polarization filters and thus reduces the required space for the modulation component in the display.

As to **claim 24**, most of the claim limitations have already been discussed with respect to the rejection of claims 1 and 2 except for applying data simultaneously on a pixel-by-pixel basis [*Nakanishi*: *Col. 1 Lines 47-55*].

6. **Claim 9** is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakanishi and Butler-Smith as applied to claim 3 above, and further in view of Son et al. (U.S. Pat. No. 6,603,504 B1, herein after referred to as "Son").

The claim limitation regarding the receptors implemented in pixels has already been discussed with respect to the rejection of claim 1.

Nakanishi does not teach the data encoder comprising an array of light masks each corresponding to one or more the receptors, each of the light masks selectively blocking or permitting the emissions to pass to a corresponding one or more of the receptors based upon the data.

However, Son [*Fig. 10a*] teaches light masks implemented in an array of light-projectors ("*light strip array projectors 55, 56, 57*, and, *58*") utilized in an image display system [*Col. 7 Lines 3-8*].

It would have been obvious to one of ordinary skill in the art at the time of the invention to include a plurality of light masks in Nakanishi's data encoder where each of the light masks corresponds to each of the receptors included in Nakanishi since Nakanishi's data encoder is a device / mean to project lights as Son's light-projectors, so that the light masks in Nakanishi's data encoder to illuminate the lights only to the corresponding respective pixel [*Col. 7 Lines 16-19*], and thus to provide clear images.

7. **Claim 17** is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakanishi and Butler-Smith as applied to claim 15 above, and further in view of Vogeley et al. (U.S. Pat. No. 5,831,601, herein after referred to as Vogeley).

Nakanishi as modified by Butler-Smith does not teach a light absorber to absorb light reflected away from the receptors.

However, Vogeley [*Fig. 15*] teaches a light absorber ("*66*") absorbing the reflected light which is not emitted to the screen of the display [*Col. 10 Lines 1-4*].

It would have been obvious to one of ordinary skill in the art at the time of the invention to include Vogeley's light absorber in Nakanishi as modified by Butler-Smith to block or absorb any unnecessary light emission for displaying an image on the screen, thus to allow the display to present clear images.

8. **Claim 18** is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakanishi and Butler-Smith as applied to claim 13 above, and further in view of Tiao et al. (U.S. Pat. No. 6,227,669 B1, herein after referred to as "Tiao").

Nakanishi as modified by Butler-Smith does not teach an integrating rod to provide uniformity to the emissions produced by the source.

However, Tiao [*Fig. 1B*] teaches an image display utilizing an integrating rod (a combination of "*glass rod integrator 25*" and "*lens 35*") for the emissions produced by the source.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use Tiao's integrating rod in Nakanishi modified by Butler-Smith to uniformize the light emitted by Nakanishi's light source and thus to improve the light emission efficiency of the display [*Col. 1 Lines 35-38*].

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seokyun Moon whose telephone number is (571) 272-5552. The examiner can normally be reached on Mon - Fri (8:30 a.m. - 5:00 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

February 27, 2006
S.M.
Division 2629

AMR A. AWAD
PRIMARY EXAMINER